Kimmel, Melvin J. & O'Mara, Francis E., US Army Research Institute for the Behavioral and Social Sciences, Alexandria, Virginia. (Wed. A.M.)

The Measurement of Morale

An instrument measuring organizational morale was constructed from unit member satisfaction response aggregated to the battalion level. The data was gathered at three different points in time from military personnel within 55 CONUS battalions. Significant positive correlations between the satisfaction scores and an independent index of affective orientation supported the widely held, but rarely tested assumption that satisfaction measures are a true indicant of an individual's affective orientation toward his/her unit. Analysis of the instrument's psychometric properties showed it to be a reliable and valid measure of morale as an organizational characteristic as distinct from an individual level variable. Theoretical and applied implications of these findings for the study of organizational morale in military and nonmilitary units are discussed.

THE MEASUREMENT OF MORALE

Melvin J. Kimmel and Francis E. O'Mara

US Army Research Institute for the Behavioral and Social Sciences

While there are obviously many factors contributing to mission accomplishment, one that has been consistently emphasized by military strategists is the unit's morale. In a recent review of the morale literature, Motowidlo et al (1976) concluded that "apparently, hardly any military Commander doubts that morale is a potent force determining group effectiveness." (p. 52). However, these authors also point out that despite its stated importance, no coherent theories of organizational morale exist and there is virtually no systematic empirical literature on the subject.

An important first step to learning about morale would be to construct a reliable and valid measure of the concept. Motowidlo and Borman (1977) were only partially successful in developing such an instrument. The authors report some evidence for the scale's convergent validity. However, its reliability was low and there were indications of halo error in ratings. The major purpose of the present study was to develop an instrument free from such deficiencies.

One obvious issue to consider before developing a valid morale measure is its definition. Unfortunately there are almost as many definitions of morale as there are people writing about it (Motowidlo et al, 1976). While definitions differ, most writers (e.g. Guion, 1958; Martin, 1965; Stagner, 1958) seem to agree that morale represents an affective orientation toward the work unit or organization and includes "job satisfaction" as one of its major components. It would therefore appear appropriate to aggregate member responses to a series of job satisfaction items to obtain an affective measure of the unit's morale.

However, some organizational psychologists have questioned such an approach. Blum and Naylor (1968) and Motowidlo et al (1976), for example, argue that an adequate definition of morale should include such factors as motivation and cohesion, and not be limited to job satisfaction alone. Further, Guion (1973) and Lincoln and Zeitz (1980) contend that while it is possible to aggregate scores on an individual level variable to form an organizational attribute, it makes little sense to do so with an affective characteristic such as satisfaction. They explain that satisfaction, like all evaluative or affective constructs, is subject to an individual's unique motives, values and job environment. Since these characteristics differ from individual to individual, they believe it would be pointless to aggregate satisfaction scores in an attempt to form a relatively stable and generally agreed upon affective orientation toward the organization. This assumption will be tested as part of our attempt to develop a reliable and valid organizational measure of morale.

The development of this morale measure proceeded in two phases. The first involved the comparison of satisfaction scores against a derived index of affect to assess the validity of using individual satisfaction measures to represent a member's affective orientation toward the organization. The second phase was directed at examining the psychometric properties of a unit morale measure that is based on aggregated satisfaction scores.

Method

Subjects. Data was collected at three different points in time from a sample of 55 combat arms, combat support, and combat service support battalions located at six CONUS installations. At each wave of data collection an independent sample of service members, NCOs, and officers within each unit was randomly drawn, using the last digit of individual social security numbers. The total sample for each wave consisted of 6,979 service members, 5,882 NCOs and 6,172 officers.

Procedure and measures. Satisfaction measures were administered on three separate occasions at six-month intervals to the sample of unit personnel as part of a larger climate survey instrument. Surveys were administered in large groups by teams of researchers using standardized instructions. These satisfaction measures were drawn from the Survey of Organizations (Taylor and Bowers, 1972) and measured individual satisfaction with his or her unit, supervisor, coworkers, and job. The four areas of unit, supervisor, coworkers and jobs likewise defined the four major content domains of the overall climate survey. Subjects responded to each of these items utilizing a five-point scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree").

A morale score for each battalion was generated by first averaging the battalion members' responses to the four satisfaction items into a "General Satisfaction" score for each individual. The General Satisfaction scores for all battalion members were then averaged to derive the battalion morale measure.

The independent index of affect, used to determine if satisfaction represents a member's affective orientation toward the organization, was constructed by first converting all item responses on the climate survey to standard scores. All non-satisfaction items were next categorized as being affectively positive, negative, or neutral by two independent judges. The z-scores for all positively and all negatively rated items were then averaged separately, while the neutral items were eliminated from further analysis. The two resulting statistics were labeled z_+ and z_-, with the first of these being an indicant of a subject's tendency to agree to affectively positive items and the second reflecting agreement to affectively negative items. Highly significant ($p < .001$) negative correlations were observed between z_+ and z_- of -.50, -.49, and -.47, for waves 1, 2, and 3 respectively, suggesting that subjects were selectively attending to the affective content of the items and were responding in a manner consistent with their generalized affect towards their situations. A single index of this affective orientation ($\bar{z}$) was then produced using the equation: $\bar{z} = (z_+) - (z_-)/2$.

Results

The validity of satisfaction measures as indicants of affective orientation was determined by its relationship with the independent measure of affect, $\overline{z}$. Table 1 shows the correlations between $\overline{z}$ and the satisfaction measures taken individually and as a group for each of three waves of data collection. It is clear that there is substantial correlation between the satisfaction measures and the independent measure of affective orientation, thus validating the hypothesis.

Given a high degree of intercorrelation among the four satisfaction items, responses to these four items were averaged to produce a single General Satisfaction score for each individual. This single measure of General Satisfaction was then employed in examining the validity of affective orientation as an organizational attribute.

Two different approaches were employed in assessing this validity. The first approach examined the discriminant validity of the General Satisfaction measure at the battalion level. If General Satisfaction varied only at the individual level, it would be randomly distributed across battalions such that battalions would not differ on this variable. However, if affective orientation was a true organizational attribute, then different battalion settings would produce different levels of the General Satisfaction variable. Accordingly, the 55 battalions were compared on General Satisfaction using a least-squares one-way ANOVA on this measure. As shown in Table 2, battalions differed significantly on this measure at each rank level, and this finding was consistent across the three waves. This suggests that affective orientation is a true organizational attribute and can thus be analyzed at this level.

The second approach was to determine the stability of satisfaction at the organizational level. Battalion morale would be expected to vary somewhat from one time period to another due to differences in environmental conditions and the high level of personnel turnover within units. However, if morale is, in fact, a true organizational variable, some consistency should be observed across time, and one would expect positive correlations in battalion morale across the six months separating the data collection waves. To test this hypothesis, the battalion members' General Satisfaction scores were aggregated at each wave to produce a mean battalion morale score. Correlation coefficients were then computed between morale scores on the adjacent waves for each rank group separately. Table 3 presents the results of this analysis. As can be seen, the correlation coefficients between the Wave 1 and Wave 2 morale scores were significant at each rank level, offering some additional support for the hypothesis that morale can be conceptualized as an organizational variable. However, the hypothesis was not totally confirmed as only service members showed a significant relationship in the Wave 2/Wave 3 comparisons.

Discussion

The significant correlations found between the satisfaction items and our independent measure of affect support the commonly held, but largely untested, assumption that job satisfaction directly reflects an individual's affective orientation toward his/her work environment. More importantly, the findings derived through the analyses of the morale measures take affect out of the realm of individual psychology and suggest that an affective variable such as morale can be legitimately operationalized at the organizational level. This conclusion is tempered somewhat by the finding that the morale measure was not as stable for NCOs and officers as it was for service members. One possible interpretation is that a different set of dynamics operate upon morale at the higher levels. Another possibility relates to the fact that each aggregate score at the higher rank levels was based on a smaller N than that derived for service members. This being the case, the NCO and officer morale measures would not possess the same degree of reliability as the service member data, and may underlie the attenuated stability of results at the higher levels. Further research is needed to clarify this issue.

The general conclusion that morale is an organizational variable does not contradict organizational psychologists like Guion (1973) who note the importance of distinguishing between attributes of people and attributes of organizations. However, in support of Lincoln and Zeitz (1980), the results clearly demonstrate that it is possible to obtain a relatively stable and generally agreed upon organizational measure by aggregating individual-level variable scores. While supporting the general proposition advanced by Lincoln and Zeitz, the results refute their assertion that affectively-laden concepts such as job satisfaction should not be aggregated. In making this assertion, Lincoln and Zeitz, like Guion (1973), appear to be inappropriately equating affective orientation and job satisfaction. The fact that satisfaction is an individual-level variable in no way implies that all forms of affect must be conceptualized at this level. Some characteristics, like morale, can be viewed as shared attributes of group members and, hence, qualify as organizational variables. We suggest the proper level at which to conceptualize and operationalize a construct should be empirically determined rather than decided upon on an a priori basis.

A separate question relates to the adequacy of a morale measure that is based solely on satisfaction. Although most writers agree that satisfaction is an important component of morale, some, like Blum and Naylor (1968) and Motowidlo and Borman (1977) argue that other dimensions should also be included to capture its full meaning. We suggest that while morale may, in fact, be a multidimensional variable, this does not necessarily imply that a unidimensional measure such as the one described in the present paper is inappropriate. Operational definitions of psychological constructs rarely (if ever) tap all relevant dimensions. The field of psychology has usually progressed by beginning with limited measures of a particular concept and subsequently building upon these first approximations (Elms, 1975). The same procedure is suggested in the case of organizational morale. Other

hypothesized dimensions should be incorporated into future measurement instruments and their discriminent and concurrent validity tested. This systematic approach should lead to the development of a truly reliable and valid instrument that does justice to the potential multidimensional nature of the concept. Once adequate measures are developed, it will then be possible for researchers to effectively study the antecedents and consequences of the morale construct, which is thought to play such an important role in the life of a military organization.

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Table 1. Zero-order and Multiple Correlations between Affective Response Bias (z) and Satisfaction Measures

	Wave 1		Wave 2		Wave 3	
	r	R	r	R	r	R
Satisfaction with Job	.61		.62		.60	
Satisfaction with Unit	.63		.63		.63	
Satisfaction with Supervisor	.65		.63		.65	
Satisfaction with Coworkers	.44		.46		.44	
		.81		.79		.80

Table 2. Results of One-way ANOVAs Testing Discriminability of General Satisfaction Measure by Rank and Time

	Time		
Rank Level	1	2	3
	F (df)	F (df)	F (df)
Service Members	2.748 (53,3577)	3.649 (52,3789)	3.055 (53,4040)
NCOs	2.902 (52,1566)	2.689 (52,1517)	1.794 (53,1755)
Offices	1.908 (48,460)	1.874 (52,597)	3.076 (53,645)

NOTE: $p < .001$ for all F valves.

Table 3. Morale Measure Intercorrelations across Adjacent Waves by Rank Level

Rank Level	Interwave Coefficients r Wave 1/Wave 2	r Wave 2/Wave 3
Service Members	.3881**	.4109**
Noncommissioned Officers	.2463*	.1941
Officers	.4945**	.1755

** $p < .01$
* $p < .05$